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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,042	06/23/2004	Syuushi Nomura	042449	5201

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EXAMINER

SOOHOO, TONY GLEN

ART UNIT	PAPER NUMBER
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1723

MAIL DATE	DELIVERY MODE
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05/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/500,042	Applicant(s) NOMURA ET AL.	
	Examiner Tony G. Soohoo	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 4-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mortus 3747656.

These claims are apparatus claims. The claims are to a structure Issues to the any "conversion of a field" is deemed directed to an intended use and is afforded as an immaterial limitation to the patentable distinction of the structure itself.

The Mortus reference discloses a single material piece having an eternal shape of an hexagonal prism and having an annular hole 12, internal spiral groove thread of a triangular shape and made of a metal.

With regards to claim 1, the Mortus reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of having

- (1) plural material pieces,
- (2) being made of the metals (SUS304 stainless steel, claim 6) or diamond (claim 1, line 8),
- (3) being heat treated,

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- (4) being arranged in with the openings parallel to one another in a particular arrangement (i.e. lying in the same direction, so you may be able to draw a circle about points of the pieces), and
- (5) being retained (i.e. held in a box for example).

With regards to the 1st issue, it is noted that nuts are commonly sold in plural pieces since fasteners are used in multiple places to hold a housing together. Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to provide plural locknuts to be sold together for reasons of convenience and lower costs of manufacture and sales. Also, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

With regards to the 2nd issue, it is noted that stainless steel is a common material used for locknuts and the use of stainless steel exhibits a desirable property of resistance to rusting. Also, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to substitute for the metal material of the Mortus locknut with a stainless steel material such as the known SUS304 stainless steel material so that it would exhibit a resistance to rusting.

With regards to the 3rd issue, the treatment of the material piece is directed to the method of manufacture, thereby may be argued that does not structurally define the device itself. Nonetheless, it is an old and well known technique to heat treat metals to

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provide a greater structural strength. Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to heat treat the metal of the locknut so as to alter the material characteristic in order to provide a greater material strength of the nut.

With regards to the 4th issue and 5th issue, the planar arrangement and retaining of the plural material pieces (locknuts), it is an old and well known technique to put nuts into a box and to arrange them relatively flat so as to provide a more efficient filling of the box. Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to provide a box to retain the locknuts for sale, and to arrange the locknuts in a flat manner with the holes in parallel axial arrangement so as to optimize the amount of locknuts to fit into the box for sale.

With regards to the shape of the arrangement of the pieces to form a circle, the absent any unexpected result, the arrangement of the locknut in the box to form a particular shape so as to provide a more effective and space efficient positioning is deemed obvious. It has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70. Accordingly, absent any showing of unexpected result, it is deemed that it would have been obvious to one of ordinary skill in the art to rearrange the locknuts of Mortus to a hexagonal form to provide a space efficient grouping of the locknuts. The documentation filed under 37 CFR 1.132 filed by Takao et al fail to fully describe and established that such tests were conducted with the particular arrangement as claimed. Technical paper refers to an invention however does not clearly establish a fact pattern that the claimed structural features of claim 1 is clearly present in the device utilized in the paper. Furthermore the paper does not

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establish a control test of the utilization of mere locking nuts as shown in the reference applied. Lastly the paper does not establish that such differences of comparative operation is "unexpected" in that of beyond statistical deviation of measurements. Such evidence submitted by applicant. In the documentation filed under 37 CFR 1.132 is deemed unpersuasive.

With regards to claims 4-5, whereby the filed converts are piled on top of one another. It is an old and well known technique to stack boxes on top of one another to provide an efficient manner to store boxes for sale upon a self. Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to provide plural boxes of the locknuts in a piled stacked manner in order to provide an efficient storage while awaiting sale.

With regards to claim 8, the size and height of locknuts are commonly known to be provided in different sizes to fit an corresponding threaded fastener. Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to change the size of the locknut of Mortus to a size as recited by the claim so as to fit a respective size threaded bolt.

With regards to claim 11, it is noted that a storage room or warehouse has doors and windows which are provide an inlet and outlet and walls which provide as a container in which to store boxes of locknuts in an environmentally controlled environment. Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to provide for the boxes of locknuts of the Mortus reference with

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a storage room or warehouse to provide a more advantageously controlled environment to hold the locknuts prior to sale.

3. Claims 1, are 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shearer 3424437 (previously cited).

The Shearer reference discloses a method of fluid processing by utilizing spiral internal flow elements stacked next to one another to process a liquid in a main flow pipe.

The JP 09010776 reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of the utilization of the particular shaped element, of the material, and arrangement as recited in the description of the structure in the claims, and processing water as the liquid.

It has been held that, absent any unexpected result, a mere change in form or shape on the basis of suitability is a matter of obvious mechanical design choice. In re Dailey, 149 USPQ 47 (CCPA 1976). And it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Thus absent any unexpected result, it is deemed that it would have been obvious to one of ordinary skill in the art to modify the shape and material, and arrangement of the honeycomb elements of the JP 09010776, in any arrangement including of that of recited in the claim so as to provide a more stronger and compact arrangement

With regards to the use of water, absent any unexpected mixing, a person having ordinary skill in the art in fluid handling, it would have been obvious to one of ordinary

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skill in the art to utilize water in contrast to viscous fluids whereby it is old and well known to mix water through a static mixer.

Response to Amendment

4. The affidavit under 37 CFR 1.132 filed 02/27/2007 is insufficient to overcome the rejection of claims 1-2, 3-15 based upon 35 USC 103 as set forth in the last Office action because the affidavit has not addressed unexpected results produced by the particular claimed limitations required in the claim(s), 2) addressed a comparison of the prior art reference structure in any unexpected result, and 3) has not addressed any issues of control tests or statistical variation of the tests of the apparatus as presented in the paper. See the rejection above for further details.

Conclusion

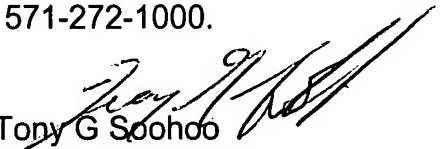
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The JP references Cited in the PTO 892 were cited by the EP in a supplementary search report in March 2005 but was not submitted in an IDS by applicant as of the current reply of February 2007.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G. Soohoo whose telephone number is (571) 272 1147. The examiner can normally be reached on 8AM-5PM, Tue-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on Acting SPE. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tony G Soohoo
Primary Examiner
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